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Plebicula dorylas magna nov. ssp. (Lep.: Lycaenidae) from the Eastern Carpathians, Rumania

ZSOLT BÁLINT

Abstract: A new subspecies of Plebicula dorylas DEN. & SCHIFF. is described. Some remarks on its habitat and ethology are given.

Introduction

In summer 1979 I made a collecting-trip to Transsylvania and discovered some populations of Plebicula dorylas DEN. & SCHIFF. with exceptional largesized specimens. I compared those with the nominate race, flying in Hungary, and discovered that they differed. Subsequently I made two further trips to the area of this large Blue to collect more specimens, to observe it in it's natural habitat and to discuss it's status with local amateur-entomologists.

Plebicula dorylas magna nov. ssp.

Material: Holotype: 1 ♂, Rumania, Transsylvania: Gyergyó (=Gheorgieni), Medgyeshavas, 5. VII. 1942, leg. LENGYEL, in coll. Hung. Nat. Hist. Mus. Budapest (Hungary).
Paratypes: 18 ♂, 2 ♀; Rumania, Transsylvania: Gyergyó, Medgyeshavas, 5. VII. 1942, leg. LENGYEL (2 ♂); Borszék (=Borsec), 19. VII. 1942, leg. VARGHA (1 ♂); Ditró (=Ditrau), 17. VII. 1942, leg. GAÁL (1 ♂); Gyergyó, Bakta, 730 m, 24. VI. 1979, leg. S. & Z. KOVÁCS (1 ♂); Gyergyó, Magas Bükk, 1000 m, 28. VII. 1974, leg. S. & Z. KOVÁCS (1 ♂); Gyergyó, Csíkszék, 10. VIII. 1980, leg. S. & Z. KOVÁCS (1 ♂, 1 ♀); Gyilkostó (=Lacu Roşu), 8. VII. 1938, leg. JÓZSEF (1 ♂); Gyilkostó, VII. 1942, leg. MAJTHÉNYI (1 ♂); Gyilkostó, 20. 24. VII. 1979, leg. BÁLINT (1 ♂); Gyilkostó, 24. 26. VII. 1981, leg. BÁLINT (2 ♂); Békás szoros (=Cheile Bicazului), 900 m, 29. VII. 1974, leg. S. & Z. KOVÁCS (1 ♂); Békás-szoros, Kis Cohard, 1000 m, 2. 4. VII. 1982, leg. S. & Z. KOVÁCS (1 ♂); Békás-szoros, Oltárkö, 11. VII. 1983, leg. S. & Z. KOVÁCS (1 ♂); Nagyhagymás (=Hăşmaşul Mare), 1700 m, 19. VIII. 1974, leg. S. & Z. KOVÁCS (1 ♂); Vargyasi-szoros (=Cheile Virghişului), 800 m, 5. VII. 1980, leg. S. & Z. KOVÁCS (1 ♂, 1 ♀); all in coll. Nat. Hist. Mus. Budapest (Hungary).

Description:

Alar expanse: 32 39 mm, larger than in the nominate race which measures 28 34 mm only.
Male: ground colour of the upperside of the wings is of a shining pale blue, brighter than in the nominate race. Wings are strong, wide and rounded; therefore their larger size is immediately striking. Termen is broader and more conspicous, owing to a more brillant blue than in the nominate race. Undersides of the wings are dark pastel brown with some greyish shade, the pattern softer and less distinct in comparison with the nominate race. Submarginal row of pale ferrugineous spots on the forewings is vestigial, the submarginal band proper osseous not chalk-white as in the nominate race. The submedian row is consisting of large brownish or velutinous-black spots with characteristically faded osseous rings. The submarginals of the hindwings are

very definite small brown spots, usually only with some black scales.The base of the wings is rather drab or khaki of a pastel shade, not bright and blue as in the nominate race. The underside of the abdomen is similar in the shade of colour.

Female: Wings are large and rounded, similar to those of males. Their upperside is dark brown to black with a discal spot shining through in the forewings. The submarginal ferrugineous lunules are reduced or missing on the upperside of the hindwings. The underside of the wings is reddish-brown, not pale grey as in the nominate race. The underside shows less distinct submarginal ferrugineous lunules and brown spots; the basal and discal spots are small and black with osseous rings.

Habitat:

P. dorylas is one of the typical Lycaenidae-species in limestone-regions of the Central Danubian Basin. Here it is represented by the nominate race, flying in two broods where the habitat is suitable on grass-covered rocky slopes of southern exposure. In many cases it occurs as a dominant species, while it appears only as a interesting member of the fauna in other habitats. P. dorylas is a typical xerothermous species favouring flowery meadows. Caused by strong winds it flies only exceptional in forest-clearings and barren places.

In the literature I found some indications that P. dorylas may be single-breeding in highlands and northern mountains. Together with amateur-entomologists I observed such a specialisation in Rumania and in narrower sense in Transsylvania too. According to this observations P. dorylas magna **nov. ssp.** is also univoltine. So it differs from P. d. dorylas not only in morphological characters but in it's phenology as well.

P. dorylas flies in one brood in the following mountains of Transsylvania: Retezat, Harghita, Alps of Gheorghieni, Alps of Ciuc, Alps of Maramureș and in the Gheorghieni Basin. It has two broods in Cimpia, Munții, Trascau and in the Háromszék Basin (=Județul Covasna) as in the lower parts of the Ciuc Basin.

The habitat of P. d. magna **nov. ssp.** is one of the most characteristic ones in the cristalline zone of the Eastern Carpathians: strongly eroded limestone mountains with the typical and very impressing towering cliffs, deep georges and rocky plateaus. A particular botanic zonation has developed here on the cliffs 100 to 300 meters high. At the base are coniferous woods growing, sometimes mixed with decidous trees. Then the vegetation suddenly turns into rough grassy slopes, into closed and open rocky swards, talus slopes and finally to almost nude rockwalls. Depending on the exposure rocky swards or marshy gallery-forests appear on the plateaus. Montane elements can be found at the bottom of the valleys where humidity is very high. About 50 meters higher submontane elements can already be seen, while in the rocky swards Far East and Asiatic steppe elements coexist with subalpine species. This ecosysteme owes it's existence to the unusual microclimatic factors as well as the localization of the Eastern Carpathians.

The new subspecies magna flies always on grassy slopes above the forest belt. It is common in some places, but never in aig populations as the bivoltine nominate race in it's habitats. Males are rarer and fly sparingly. The extraordinary natural features make their observation much more difficult. We have never found them in the high vegetation along the brooks.

Accompaigning Lepidoptera:

The following Blues fly on the hygrophilous meadows of this region: Cyaniris semiargus ROTT., Plebejus argus aegon DEN. & SCHIFF., Loweia tityrus PODA,

Plebicula dorylas Den. & Schiff.

underside

1, 2: P. d. dorylas, gen. I, male
Central Hungary, Budapest 8. VI. 1956, leg. Kovács

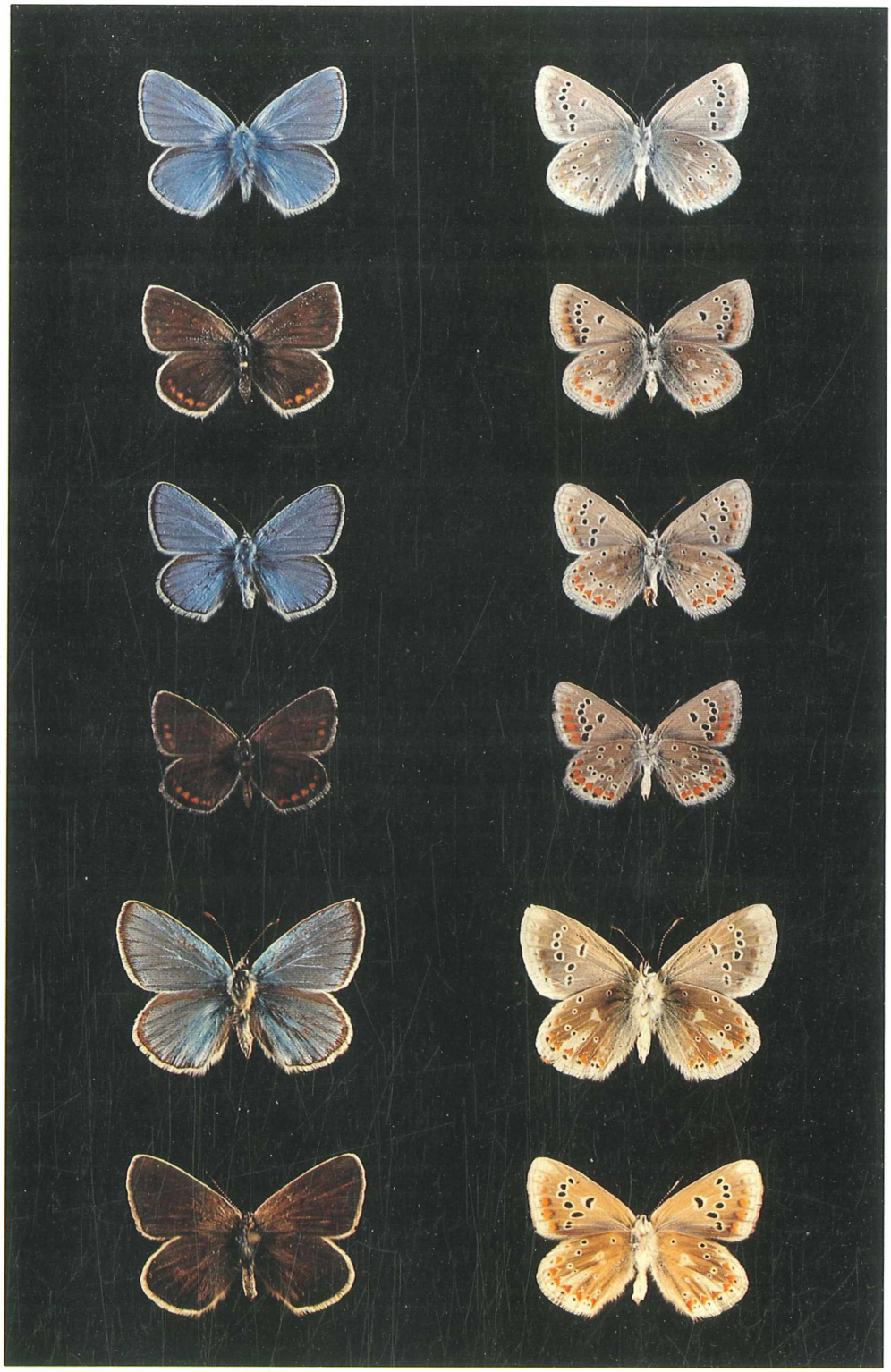
3, 4: P. d. dorylas, gen. I, female
Central Hungary, Budapest 8. VI. 1956, leg. Kovács

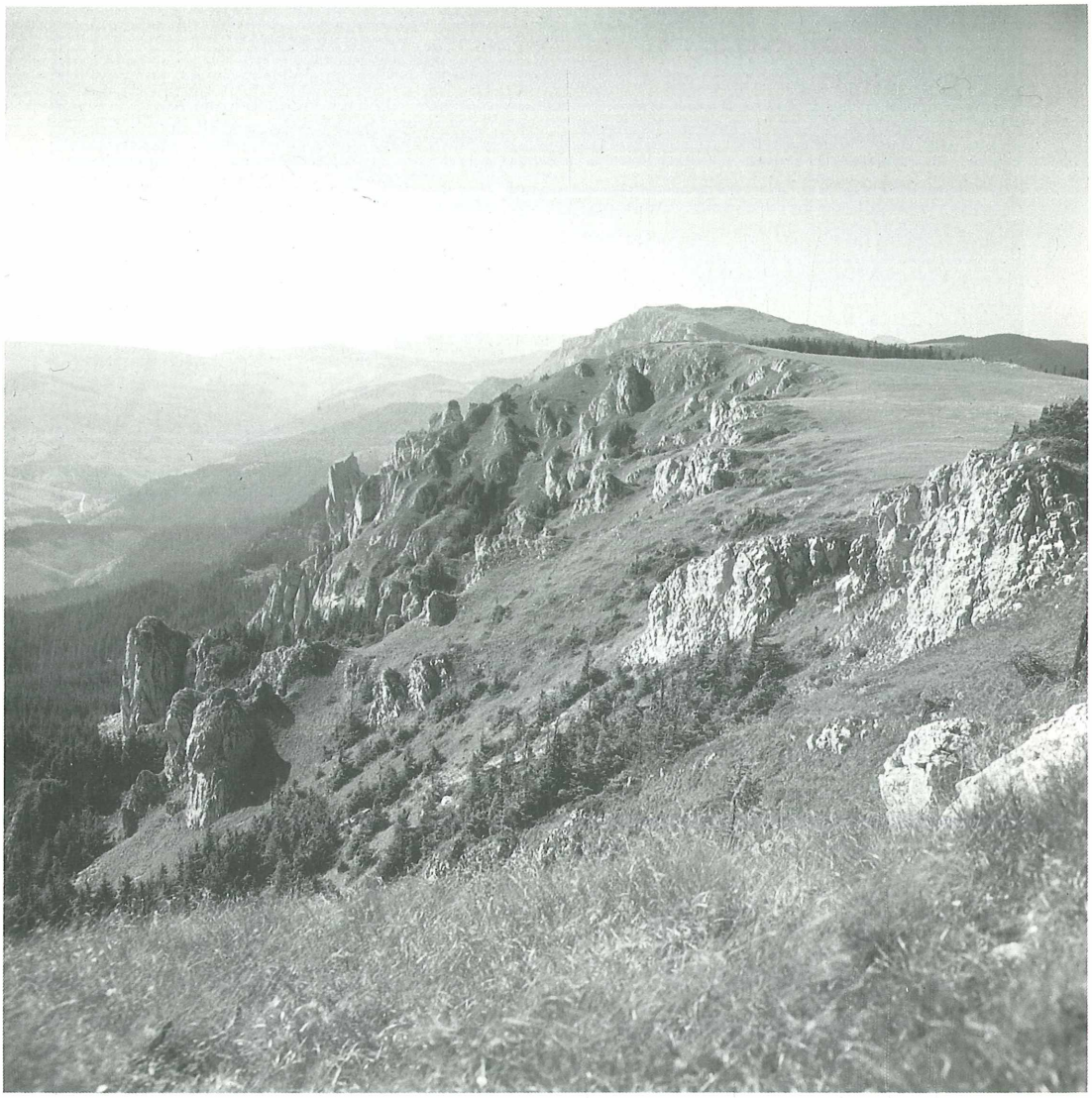
5, 6: P. d. dorylas, gen. II, male
Central Hungary, Budapest: Harmashatar hegy 5. VIII. 1953, leg Mészáros

7, 8: P. d. dorylas, gen. II, female,
Central Hungary, Budapest 7. VIII. 1957, leg Kovács

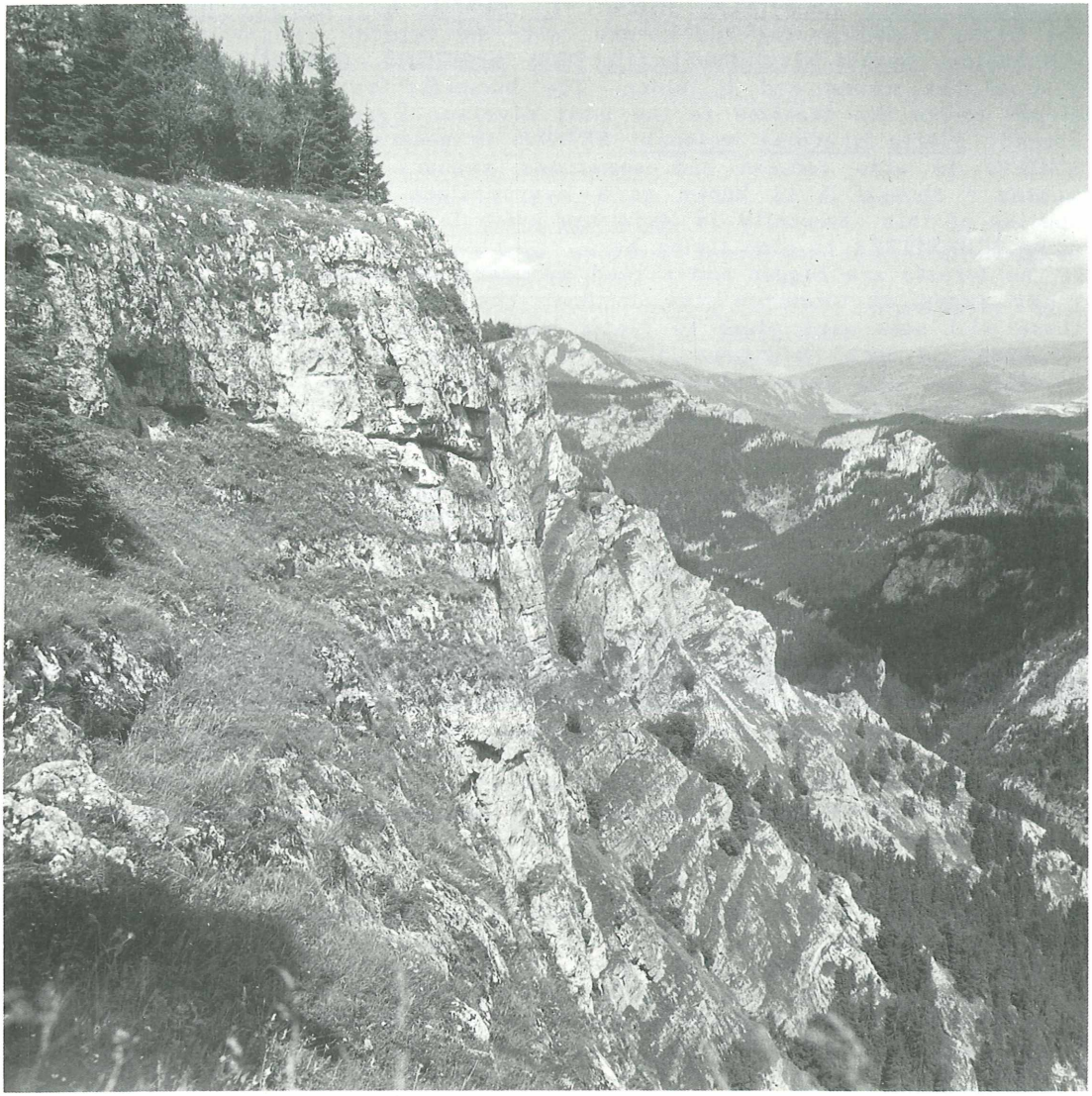
9, 10: P. d. magna ssp. nov., HOLOTYPE, male
Transylvania: Gyergyó, Medgyeshavas 5. VII. 1942, leg. Lengyel

11, 12: P. d. magna ssp. nov., PARATYPE, female,
Transylvania: Gyergyó, Csíkszék 10. VIII. 1980, leg. S. & Z. Kovács





Habitat of P. dorylas magna ssp. nov. above Balan: Area of Hasmasul Mare, Ecem about 1700 m (Judetul Harghita, Rumania)



Habitat of P. dorylas magna ssp. nov. in the Eastern Carpathians - Area of Cheile Bicazului, Suhardul Mic about 1100 m (Judetul Harghita, Rumania)

Palaeochrysophanus hippothoe eurydice ROTT. The dominant butterfly-species is Erebia euryale syrmia FRUHST., sitting in large numbers on the flowers of Telekia speciosa (SCHREB.) BAUMG. An interesting species in this habitat is also Zygaena nevadensis gheorghienica TILTSCHER. The woodland-species (e.g. Limenites populi bucoviensis HORM., L. camilla L., Apatura iris L.) follow the paths running along the rivers, and the typical Nymphalidae-species of the region, Neptis rivularis lucilla DEN. & SCHIFF., inhabits the lower margins of the woods and hillsides. The butterfly-fauna of the rough, grassy slopes above the treeline is the most diverse: Pyrgus alveus HBN. is widespread, Pieris bryoniae wolenski BERGER is general, Maculinea alcon DEN. & SCHIFF. is also common and sometimes appears Mellicta diamina LANG in masses though it is known as a hygrophilous species. The most dominant species of this community is Maculinea arion L.; Parnassius apollo transsylvanicus SCHWEITZER is also flying here.

If the forests are bigger and a road meanders along the mountain slopes, zonal rocky sward phytocoenose may dominate the waysides. But close to the road these will soon give place to plants which attract butterflies. Here a lively movement, a local migration of butterflies can be observed between natural habitats and this zonal communities. Nevertheless it was not possible to ascertain the foodplant of P. d. magna **nov. ssp.**

Phenology:

The males of P. dorylas magna **nov. ssp.** usually hatch around the 20th of June, together with the males of P. a. transsylvanicus. The swarming of the new subspecies culminates during July and August, again together with P. apollo. During August the males gradually disappear and by the end of this month only females can be found, as in the case of P. apollo.

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